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Health and sustainable development*

Report of the Secretary-General

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* This report was prepared by the World Health Organization as task manager for chapter 6 of Agenda 21, with contributions from other United Nations agencies and international organizations. The report is a brief factual overview, which is intended to inform the Commission on Sustainable Development on key developments in the subject area.

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I. Introduction

1. Principle I of the Rio Declaration on Environment and Development states that "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature".[1] The goals of sustainable development cannot be achieved when there is a high prevalence of debilitating illnesses, and population health cannot be maintained without ecologically sustainable development. This report examines progress achieved in selected areas related to chapter 6 of Agenda 21, highlights areas in which progress has been limited, and identifies issues and trends warranting future consideration. Health issues related to other aspects of sustainable development are also addressed in other reports.

II. Steady gains in global health

2. Over the past decade, average life expectancy has increased, infant and child mortality rates have declined, and the proportion of underweight and stunted children has decreased. In developing countries, the percentage of people with life expectancy at birth below 60 declined from 38 per cent to 19 per cent between 1990 and 1999. The proportion of people without access to improved water supply fell from 21 per cent to 18 per cent over the past decade. Many infectious diseases have receded, owing to improved sanitation, nutrition, drugs and vaccines.

3. Notable progress towards the eradication or elimination of various major infectious diseases has been made. For example, the annual incidence of polio has fallen from an estimated 350,000 cases in 1988 (the start of the Global Polio Eradication Initiative), to an estimated maximum of 20,000 in 1999. The number of polio-infected countries fell from 125 to 30 over that period; the remaining infected countries are concentrated in parts of sub-Saharan Africa and the Indian subcontinent — particularly in areas with low routine immunization coverage, poor sanitation or where conflict is prevalent. A marked acceleration of activities has been undertaken to meet the goal of global eradication of polio by 2005.

4. Success in the form of a 90 per cent (or higher) reduction in cases of guinea worm over the past decade was achieved owing to a strategy based on health education, case containment and provision of safe drinking water. Intensified efforts in leprosy control led to a drop in the prevalence rate from 3.9 per 10,000 in 1990 to 1.25 per 10,000 at the beginning of 2000. In West Africa, onchocerciasis (river blindness) has been virtually eliminated in 11 countries through a programme relying on vector control and community-based drug treatment, freeing millions of people from infection by the disease and releasing millions of hectares of riverine land for resettlement and cultivation.

5. Owing to the combined efforts of the World Health Organization (WHO), the United Nations Children's Fund (UNICEF) and other partners, immunization coverage for diphtheria, pertussis and tetanus (DPT), tuberculosis, measles and polio is currently 80 per cent or more in a majority of countries, as compared to approximately 30 per cent 20 years ago.

III. Gaps and constraints

6. Despite undoubted health advances in many areas, poor health continues to be a constraint on development efforts. In some cases the process of development itself is creating conditions where, as a result of economic, political and social upheaval, environmental degradation, and uneven development or increasing inequities, human health suffers. The facts below are illustrative.

7. More than 200 million people live today in countries with an average life expectancy of less than 45 years. Average life expectancy at birth in 1999 was 49.2 years in the least developed countries, compared to 61.4 for all developing countries and 75.2 for developed countries. In many sub-Saharan African countries, life expectancy fell during the 1990s owing to the impact of HIV/AIDS. Other major setbacks in health gains occurred in Eastern Europe and the former Soviet Union, where the political and economic transition has been accompanied by decreases in life expectancy of five years for males.

8. In some of the poorest countries of the world, one in five children still fails to reach his or her fifth birthday, mainly owing to infectious diseases related to the environment. The child mortality rate in the least developed countries in 1999 was 156 per 1,000 live

births, compared to 81 in all developing countries and 11 in developed countries.

9. More than 20 million women continue to experience ill health each year as a result of pregnancy. The lives of 8 million of those women are threatened by serious health problems, and about 500,000 women, almost 90 per cent of whom are in Africa and Asia, die as a result of causes related to pregnancy and childbirth. Around 17 per cent of potentially healthy years of life are lost in women of reproductive age because of sexually transmitted diseases, including HIV/AIDS.

10. Factors that hamper progress include inequalities in access to information and to health services, prevalence of high-risk sexual behaviour, and the low social status of women. WHO's Making Pregnancy Safer strategy will contribute to worldwide efforts to reduce maternal and perinatal mortality. Efforts are also being intensified to improve women's health in general, focusing, inter alia, on the health implications of harmful practices on the girl child and the promotion of women's health through functional literacy and economic activity.

11. Infectious and parasitic diseases (communicable diseases) account for 14 million deaths per year, around 25 per cent of the world total. They are the world's leading killers of children and young adults, including many breadwinners and parents. These diseases, which have intimate links to environmental conditions and poverty, affect the lives of poor people disproportionately and pose a serious threat to health and economic development.

12. Six major diseases currently cause 90 per cent of the deaths from communicable diseases: AIDS, malaria, tuberculosis, pneumonia, diarrhoeal diseases, and measles. In addition, several parasitic conditions continue to cause considerable morbidity and disability: schistosomiasis (over 200 million people infected), lymphatic filariasis (120 million people affected), trachoma (over 150 million infected), trypanosomiasis, or sleeping sickness (over 55 million people threatened), and Chagas disease (up to 18 million people infected in Latin America).

13. HIV/AIDS has reversed the rising life expectancies of the 1990s (sometimes to pre-1980 levels) in some countries. It is the fastest growing health threat to development today and a potential risk to security. About 36 million adults and children are now living with HIV/AIDS, 95 per cent of them in developing countries. In sub-Saharan Africa, over 25 million people are infected with HIV/AIDS. More than 12 million Africans have died of AIDS (over 2 million in a single year), and 13.2 million have been orphaned, due to HIV/AIDS.

14. High (or rising) HIV infection rates are also occurring in many other parts of the world. For example, in Asia, where more than 6 million people are living with HIV/AIDS, there is the potential for an explosive epidemic. Factors driving the global epidemic are complex but include gender inequality, high-risk sexual behaviour, unsafe blood supplies, drug injection and other factors. Strengthened multisectoral responses and the implementation within health systems of better targeted, low-cost prevention and care strategies are among the numerous interventions being developed worldwide at all levels.

15. Several hundred million people continue to be infected annually with malaria, which results in almost 300 million clinical cases worldwide each year, and over 1 million deaths. The scale of the problem is increasing in many countries, partly because of deterioration in public health infrastructure, climatic and environmental changes, conflict-related human migration, widespread poverty and the emergence of drug-resistant parasites. Malaria has slowed economic growth in endemic countries in Africa by up to 1.3 per cent per year. WHO's Roll-back Malaria campaign hopes to have a significant impact on the disease in the coming decade.

16. Despite considerable progress in tuberculosis control in the 1990s, about 8 million people develop active tuberculosis every year, and the disease kills over 1.5 million people per year. In many cases, countries with the highest burdens have, for political or socio-economic reasons, been slow to adopt or expand control strategies, such as those advocated by the Global Partnership to Stop TB. Control efforts are also hampered by the emergence of HIV/AIDS and drug resistance.

17. More than 4 million people die each year from acute respiratory infections, which are the top killers of children under five years and which accounted in 1999 for 7.2 per cent of total deaths at all ages. Pneumonia, the deadliest of such diseases, kills more children than any other infectious disease, with 99 per cent of those deaths occurring in developing countries. Many deaths

could be prevented by the use of low-cost antibiotics and improved access to primary health care. Associated risk factors include low birthweight, malnutrition, crowding, and indoor air pollution due to cooking and heating with dirty biomass fuels and coal. Two billion people or more in developing countries, mostly women and girls, are exposed to indoor air pollution due to lack of access to modern energy carriers, resulting in over 1.5 million excess deaths each year.

18. Today, more than 1 billion people are without access to improved water supply, and 2.4 billion lack access to improved sanitation. Diarrhoeal diseases, largely preventable through access to safe drinking water, sanitation and food hygiene, claim 1.5 million lives a year among children under five years and account for several billion diarrhoeal episodes each year. Many of those deaths could be avoided by the use of simple and cheap oral rehydration salts. Cholera is a recurring problem in many areas and has become endemic in others. Exemplifying this trend, the number of reported cases worldwide nearly doubled in 1998, as compared to 1997.

19. In addition to preventive actions in environmental health, efforts to improve the health of young children under the age of five have been strengthened by the strategy of integrated management of childhood illness. Nevertheless, more than 2 million children under five continue to die each year from diseases that can be prevented by currently available vaccines; approximately 800,000 of those deaths are from measles alone. Neonatal tetanus has been eliminated in over 100 countries; nevertheless it continues to kill almost 300,000 newborns and 40,000 mothers each year. Almost 30 million children of the 130 million born every year lack access to routine immunization services. Where mass vaccination efforts have been successful — for example, in the Americas — over 90 per cent of children are now immunized.

20. Nearly 30 per cent of the world's population suffer from one or more of the multiple forms of malnutrition. Deficiencies of iodine, vitamin-A, iron and folic acid remain important and preventable contributors to morbidity and mortality. Almost 50 per cent of the 10 million deaths among children under five each year in the developing world are associated with underweight malnutrition. At the same time, obesity is becoming an increasingly important risk factor globally in adolescents and adults.

21. In 1999, non-communicable diseases were estimated to have contributed to almost 60 per cent of deaths (33.5 million) in the world, (cardiovascular disease 30.3 per cent, cancer 12.6 per cent, respiratory diseases 6.4 per cent), and 43 per cent of the global disease burden. Non-communicable diseases and injuries are strongly associated with the aggressive marketing of unhealthy diets, tobacco and alcohol and with reduced physical activity.

22. Tobacco remains a major preventable cause of premature death and disease. One in two smokers dies prematurely as a result of the habit. In 1999, there were over 1.25 billion smokers in the world, representing one third of the world's population aged 15 and over, the vast majority of whom are in developing countries. Four million people died in 2000 from over 25 tobacco-related causes of death, including several cancers and heart and respiratory diseases. A survey conducted in 12 countries throughout the world found that 10-33 per cent of 13-15-year-olds in those countries use tobacco. This portends a lifetime of addiction and premature death for many.

23. Injuries and violence (including domestic violence against women and children) are major neglected public health problems and lead to more than 5 million deaths a year. Injuries currently represent 14 per cent of the global burden of disease. Many injuries also result in lifelong disabilities, affecting up to 10 per cent of the population. Road traffic injuries in particular, are an important cause of unintentional injuries in developed and developing countries alike. In all countries, the use of seatbelts, better alcohol control and general road traffic safety would considerably reduce mortality and morbidity. Three of the 10 leading causes of death for 15-44-year-olds in developing countries are injury-related: road traffic injuries, interpersonal violence, and suicide. Three million adolescents between the ages of 10 and 25 lose their lives each year, mostly to traffic injuries, suicide and homicide.

24. Mental and neurological disorders affect 400 million people. Thirty per cent of countries do not have access to the basic drugs needed to treat such conditions as schizophrenia, depression and epilepsy.

25. Over 1 million workers die each year because of work-related diseases and injuries, and about 250 million accidents and 160 million cases of work-related diseases occur globally each year. The burden is

heavier on workers (including children) in the informal sector, which is the largest and least protected sector. The economic costs of occupational injury, diseases and death have been estimated at 4 per cent of global GNP.

IV. Future trends and challenges

26. At the dawn of the new millennium, poverty is likely to remain the number one killer worldwide. Poverty is an important reason that babies are not vaccinated, clean water and sanitation are not provided, drugs and other treatments are unavailable, and mothers die in childbirth. A disproportionate burden of disease will continue to be borne by disadvantaged or marginalized women, especially those living in environmentally degraded or ecologically vulnerable areas, in zones of conflict or violence, or compelled to migrate for economic or other reasons. The feminization of poverty is a major threat to social and economic development.

27. Many health problems will continue to be exacerbated by pollution, noise, crowding, inadequate water and sanitation, improper waste disposal, chemical contamination, poisonings and physical hazards associated with the growth of densely populated cities. Badly managed urban settlements and overcrowded housing make it easier for infectious diseases to spread and for illicit drugs and violence to take hold. Urban growth has outstripped the capacity of many municipal and local governments to provide even basic health services.

28. Urban growth also means greater dependence on transport systems, which, if automobile-based, generate further pollution and risk of injuries. Air pollution, both ambient and indoor, including the work environment, will continue to be a major contributor to respiratory and other ill-health conditions and of particular concern to the health of children (asthma and acute respiratory infections, for example), women and the elderly (chronic respiratory illness). Already more than 1 billion people in urban areas are exposed to health-threatening levels of air pollution, and the figure is expected to increase.

29. The globalization of trade, travel and culture is likely to have both positive and negative impacts on health. Increased trade in services and products harmful to health and the environment, travel and mass migration of people constitute additional global threats to health. Communicable diseases (such as tuberculosis), for example, are increasingly spreading to developed nations, where they affect the most vulnerable and poorest people.

30. There is increasing concern about food safety, related both to chemical substances and microorganisms. In many parts of the world, a rising incidence of food-borne disease has been evident over the past decade. In addition, the direct and indirect health consequences of the application of biotechnology in food production is a matter of concern. While the growing trade in food brings benefits (in terms of ensuring safe and nutritious diets), it could also contribute to an increased dissemination of food-borne disease. The promotion of international food safety standards and guidelines is likely to promote health and trade in both developed and developing countries. Data from the United States of America and Europe indicate that specific interventions directed at particular microorganisms, such as salmonella, can reduce the incidence of food-borne disease. WHO and the Food and Agriculture Organization of the United Nations (FAO) are working together to improve surveillance, monitoring and risk assessment methodologies.

31. Global environmental threats to health include climate change, depletion of the ozone layer, reduction of biodiversity, degradation of ecosystems and the spread of persistent organic pollutants. The long-term health consequences of human-induced climate change are likely to be profound and include threats to the food supply, natural disasters, infectious diseases, sea-level rise, changes in precipitation patterns and increased frequencies of extreme climate events, which may impinge particularly upon some of the least developed countries. Planning for the protection of human health from the potential impacts of global environmental threats requires a much improved understanding of the disease-inducing mechanisms involved and of the vulnerability of populations.

32. Disasters, both human-induced and natural, offset years of development and are foremost causes of poverty and renewed vulnerability. Currently around 250,000 people are killed every year as a result of natural disasters, with about 95 per cent of the deaths occurring in developing countries, reflecting the differences in disaster mitigation and preparedness levels between developed and developing countries.

Population displacement, increases in populations living in vulnerable areas, transportation of toxic and hazardous materials, rapid industrialisation, water and food scarcity, and chronic conflict increasingly lead to complex humanitarian emergencies, including the collapse of public health services. The International Strategy for Disaster Reduction provides an important framework in which WHO and its partners will continue to contribute to international efforts aimed at disaster prevention and mitigation.

33. The steep projected increase in the burden of non-communicable diseases worldwide represents one of the major challenges to future health development. Non-communicable diseases, injuries and violence will account for nearly 80 per cent of the global burden of disease in 2020. By then, the leading causes of disability are likely to be heart disease, depression and road traffic injuries. By 2030, at current projections, tobacco will kill more than 10 million people annually, with 70 per cent of the deaths occurring in developing countries and about half in productive middle age. The number of women smokers is expected to triple over the next generation.

34. The number of people over the age of 65 is likely to reach 10 per cent of the global population by 2025, and increases of up to 300 per cent in the older population are expected in some developing countries. The portion of the global disease burden attributable to mental and neurological disorders and substance abuse is expected to rise significantly. Health systems will need to be reoriented to deal with chronic diseases requiring long-term care, which endanger the financial sustainability of health care systems in general.

35. Health has become a more central concern in development, both as a contributor to, and an indicator of, sustainable development. While health is a value in its own right, it is also key to productivity. Many of the ill-health conditions described above have significant impacts on economic growth and development. For the first time, meetings of the Security Council, the G-8, the World Economic Forum and the Organisation for Economic Cooperation and Development, and the follow-up to major international conferences such as the World Summit for Social Development, have explicitly addressed health issues that require attention as development or security issues.

36. The health sector itself is changing. For example, some health systems are more oriented to the needs of poor people, give greater attention to promoting health throughout the lifespan, redress inequities in health status, show heightened concern for quality, measure performance and are attempting to close the gap in research capacity between developed and developing countries.

37. Many of the key determinants of health and disease — as well as the solutions — lie outside the direct control of the health sector, in sectors concerned with environment, water and sanitation, agriculture, education, employment, urban and rural livelihoods, trade, tourism, energy and housing. Addressing the underlying determinants of health is key to ensuring ecologically sustainable development and sustained health improvements in the long term. Much progress has been made in forging closer links between health and other sectors, particularly through local and national intersectoral health and development plans and through increased use of planning tools such as health impact assessment procedures, integrated monitoring and surveillance systems and improved health information systems and indicators.

Notes

[1] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992* (United Nations publication, Sales No. E.93.I.8), resolution 1, annex I.